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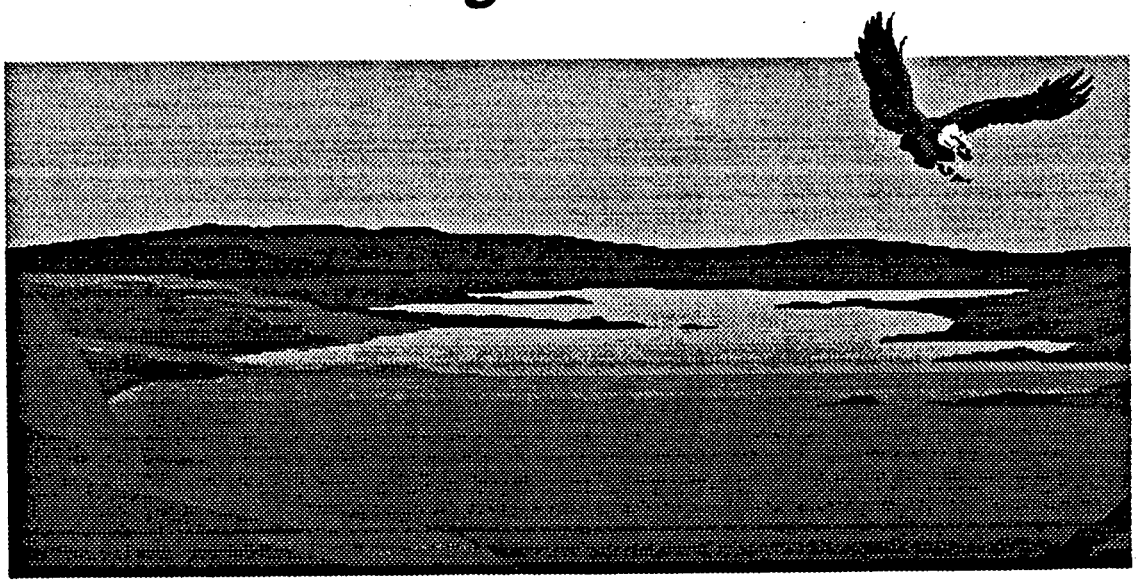
ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For

August 1992



September 20, 1992

Rocky Flats Office

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1.0 INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for August 1992. This program implements the Interagency Agreement (IAG) between the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the State of Colorado to investigate, assess, and remediate, where necessary, contaminated areas at or adjacent to DOE's Rocky Flats Plant in Golden, Colorado. This agreement was signed on January 22, 1991. The work is being performed for DOE by EG&G Rocky Flats, Inc.

Section 2.1 of this report highlights significant achievements and summarizes the milestones completed during August. Section 2.2 presents any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit as well as other program activities are presented in Section 3.0. Section 4.0 contains the schedules for routine environmental sampling as required by paragraph 210 of the Interagency Agreement. Section 5.0 contains a list which identifies the contractors and subcontractors performing work on the program as required by paragraph 13 of the IAG.

2.0 EXECUTIVE SUMMARY

2.1 SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR AUGUST 1992

Work continued on incorporating data into the OU 1 Draft Phase I RFI/RI Report which is due to EPA and CDH on October 28, 1992. Approximately 99 percent of all Phase III data is available for incorporation into the Report.

The OU 1 881 Hillside Feasibility/Treatability Study borehole sample drilling program was initiated and a total of two sites were drilled and sampled. The program began on August 21 and will be completed by September 4, 1992. The information developed from the treatability testing will be used to evaluate remedial action alternatives in the Feasibility Study. This study deals with routine contaminated groundwater in the 881 Hillside near the french drain.

On August 31, Effluent Tank 205 was 100% full of treated water from the french drain. Discharge of the tank is pending receipt of the lab analytical data which is scheduled for September 10, 1992.

Effluent Tank 206 discharge into the South Interceptor Ditch (SID) was completed on August 13. Approximately 150,000 gallons of treated water were discharged. Both influent tanks are empty and the french drain is relatively low, leaving a large capacity to store and treat ground water.

The French Drain Monitoring Well Installation Program is complete. All eleven wells were finished by August 19. The drilling program was added to the assessment phase of OU 1 by the regulatory agencies as a condition to the agencies approval of a milestone extension on the completion of the french drain after it became evident that construction of the last 500 feet of the french drain would be difficult, if not impossible due to saturated ground conditions and many safety concerns. EPA and CDH agreed to allow construction of the french drain to be terminated 500 feet short of the west end of the original design provide that the additional eleven monitoring wells were installed.

A copy of the OU 2 draft Final Subsurface IM/RAP/EA Decision Document and the Responsiveness Summary was sent to the regulatory agencies on August 20, 1992. Comments from DOE/RFO and DOE/HQ were incorporated into the document.

OU 3 soil trenching, drilling of ground water monitoring wells, surface soil sampling and environmental sampling were initiated after a plant-wide survey for the endangered plant species *Spiranthes Diluvialis* was satisfactorily completed in August.

Offsite sediment sampling in the three OU 3 reservoirs that originally was scheduled for August 24, 1992, was postponed due to poor weather conditions and subsequently started August 27, 1992 with the assistance of the USGS.

EPA and CDH have decided that RCRA closure will follow the IAG-required RFI/RI Reports in accordance with the IM/IRA decision process. The current guidance applies to the guidance for OUs 4, 7, 9, 10 and 11 which states that IAG requirements may make closure plans obsolete, as is the case with OU 15. This guidance may require the Phase I RFI/RI Work Plan to be more comprehensive than originally planned.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

On the OU 2 field treatability unit (FTU) IRA, the number of pinhole leaks that developed in the two on-line GAC upper weld seams on August 18, 1992, continue to increase. The manufacturer states, " The major cause of the failures is galvanic corrosion caused by chlorides in the influent." A manufacturer's representative visited the site to evaluate the problem. This problem will be addressed under the equipment warranty.

Due to stormy weather conditions and high turbidity in the surface water, problems have been experienced with cleaning the membrane in the Field Treatability Unit/Radionuclides Removal System (FTU/RRS). Several solutions were attempted including changing the chemical cleaning agent from calcium hypochlorite to sulfuric acid/hydrogen peroxide and increasing the chemical dose rates. A combination of the above has resulted in a solution to the problem. During this event, ten drums of sludge were processed and moved to the 90-day accumulation area. Half of these drums were the result of turbid flow from the rainstorm and the other half were an accumulation of solids within the system.

The slow pace of obtaining private landowner access agreements required to conduct the OU 3 field work is negatively affecting the surficial soil sampling schedule. Solutions are being investigated.

RFP is awaiting comments from EPA and CDH on the revised OU 8 RFI/RI Work Plan. Receipt of EPA and CDH comments past September 11, 1992 will necessitate an IAG Table VI Milestone extension.

A nylon terminal strip located inside the OU 1 interim remedial action (IRA) 891 Building Ion Exchange electrical panel is overheating due to a resistor problem. Negotiations are underway to obtain written approval to remove the resistors without voiding the manufacturer's warranty.

2.3 NEAR-TERM IAG MILESTONES

OU#	Milestone Description	Scheduled Completion	Actual Completion
16	Submit Final No Further Action Justification Document	30 Jul 92	30 Jul 92

No IAG Table VI Milestones were scheduled for the month of August 1992.

3.0 PROJECT STATUS

3.1 OU 1 - 881 HILLSIDE AREA

DESCRIPTION:

The alluvial ground water at the 881 Hillside Area, located north of Woman Creek in the southeast section of RFP, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is almost two miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up OU 1 are being investigated and treated as high-priority sites because of elevated concentrations of organic compounds in the near-surface ground water and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU 1 involved construction of an underground drainage system called a French drain that intercepts and contains near-surface ground water flowing from the OU 1 area. The near-surface water is treated at the 891 treatment facility, designed for this purpose, and released on-site into the South Interceptor Ditch alongside Woman Creek. IRA construction was completed in April 1992. The remedial investigation and feasibility study (RI/FS) to determine the final remedial action are continuing in parallel with the IRA.

3.1.1 OU 1 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase III RFI/RI Work Plan	06 Feb 90
Submit Final Phase III RFI/RI Work Plan	31 Oct 90

AUGUST WORK ACTIVITY STATUS:

EPA and CDH granted an extension of the IAG Milestone for submittal of the OU 1 Draft Phase III RFI/RI Report in a letter dated June 30, 1992. The extension was necessitated by delays in laboratory turnaround of field samples and delays in getting a National Environmental Policy Act (NEPA) categorical exclusion (CX) required to access an area designated as a floodplain. The RI Report was due to the regulatory agencies on July 30, 1992, and is now due on October 28, 1992. Work continued during August on incorporating Phase III data into the Draft RFI/RI Report. Approximately 99 percent of all Phase III data is available for incorporation into the Report. The outstanding data is primarily radionuclide analyses.

The human health and ecological risk assessment working group meetings requested by EPA as a requisite for the recently granted schedule extension proceeded as scheduled. A briefing was held for EPA and CDH (CDH could not attend the briefing) on August 24, 1992, at which preliminary information and findings were presented. The briefing went well and no major issues or contentions were raised. EPA and CDH input on data handling and uncertainty analysis for the exposures assessment was obtained at a human health risk assessment (HHRA) working group meeting held on August 28, 1992..

Work continues on the OU 1 Corrective Measures Study/Feasibility Study (CMS/FS) Report. A very preliminary listing of candidate remediation technology process options has been developed.

The 881 Hillside Feasibility/Treatability Study borehole sample drilling program was initiated and almost completed in August. A total of two sites were drilled and sampled. The borehole sample drilling program began on August 21, 1992 in IHSS 119.1 and will be completed the week of September 4, 1992. All samples obtained will be submitted to the treatability laboratory for testing. The information developed from the treatability testing will be used to evaluate remedial action alternatives in the OU 1 Feasibility Study. This study deals with routine contaminated groundwater in the 881 Hillside near the french drain.

All comments for the Final Treatability Study Work Plan are being incorporated into the Plan before submittal to the regulatory agencies which will take place in September 1992.

PLANNED WORK FOR SEPTEMBER:

Two risk assessment technical working group meetings dealing with uncertainty analysis in exposure and toxicity assessment will be held in September.

Initial screening results from the Treatability Study samples that are in the laboratory are expected in late September. This information will be used to guide the soil flushing testing.

The 881 Hillside Feasibility/Treatability Study borehole sample drilling program will be completed

Submittal of the Final Treatability Study Work Plan to the regulatory agencies

PROBLEMS: None

OPEN ITEMS:

Technical Memoranda 8, Identification of Contaminants of Concern, and TM 9, Identification of Toxicity are scheduled to be submitted in September 1992.

3.1.2 OU 1 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	18 Sep 89
Submit Proposed IM/IRA Decision Document	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91
Begin Phase II-A IM/IRA Construction	01 Apr 91
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91
Complete IM/IRA Construction	02 Mar 92

AUGUST WORK ACTIVITY STATUS:

At the end of August, Effluent Tank 205 was 100% full of treated water from the french drain. Discharge of the tank is pending receipt of the lab analytical data which is expected September 10, 1992. Heavy rainfall during early-August raised the level of water in the french drain which is being pumped and treated at the 891 treatment building.

Effluent Tank 206 discharge through the UV peroxide unit into the South Interceptor Ditch (SID) was completed on August 13. Approximately 150,000 gallons of treated water were discharged. Both influent tanks are empty and the french drain is relatively low, leaving a large capacity to store and treat ground water.

The French Drain Monitoring Well Installation Program is complete. All eleven wells were finished on August 19. Quality Assurance representatives were in the field several times to assure proper procedures were followed and documentation completed. The drilling program was added to the assessment phase of the OU 1 IRA program by the regulatory agencies as a condition to the agencies approval of a milestone extension on the completion of the french drain from March 2 to April 13, 1992. After french drain construction began, it became evident that construction of the last 500 feet of the french drain would be difficult, if not impossible due to saturated ground conditions and many safety concerns. EPA and CDH agreed to allow construction of the french drain to be terminated 500 feet short of the west end of the original design if additional monitoring wells were installed.

The footing drain on the 881 Building backed up into the building on August 24, 1992. Heavy rainfall resulted in a flow that was in excess of the carrying capacity of the four-inch pipe that leads into the drain. IM/IRA operation began pumping water from the 881-drain vertical culvert into the french drain after 881 Building personnel notified IM/IRA personnel about the backup. Resolution alternatives are now being investigated.

Excavation to expand the size of two small wetland areas by 2000 square feet near the west end of the french drain was finished on August 11, 1992. This wetland expansion was part of an EPA agreement on the 881 Hillside French Drain IRA Project.

PLANNED WORK FOR SEPTEMBER:

Discharge of tank 205 will be completed (approximately 150,000 gallons)

PROBLEMS:

A nylon terminal strip located inside the Ion Exchange electrical panel is overheating. The excessive heat is due to a design oversight by the subcontractor and the placement of 88 resistors on the terminal strip. Negotiations are underway to obtain written approval to the remove the resistors without voiding the manufacturer's warranty.

OPEN ITEMS:

Resolution of the 881 Building backup problem with the footing drain.

3.2 OU 2 - 903 PAD, MOUND, AND EAST TRENCHES

DESCRIPTION:

The contamination at the 903 Pad and Mound areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time, allowing hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent, some of which may have contaminants that were not removed by the treatment system.

An Interim Measures/Interim Remedial Action (IM/IRA) provides for surface water in source areas of contamination to be collected, treated, and discharged to the surface water drainage. Operation of a field-scale treatability unit for the South Walnut Creek drainage began in May 1991. The effectiveness of the treatment process will be evaluated at three locations: the entrance to the treatment facility, several points within the facility, and the discharge point. After completion of the field-scale treatability tests, the unit is anticipated to remain in service until the final remedial action is operational. The RI and FS are continuing in parallel with the IRA.

A second IM/IRA was established in late-1991. This Proposed Subsurface Investigation IM/IRAP/EA is north of Woman Creek and encompasses the 903 Pad, the Mound Area, and the East Trenches Area of OU 2. This IM/IRAP/EA identifies and evaluates interim remedial actions for removal of residual free-phase VOC contamination from three distinct subsurface environments at OU 2. Each of the proposed VOC-removal actions involve in situ vacuum-enhanced vapor extraction technology. The interim remedial actions are proposed for the collection of information that will aid in the selection and design of final remedial actions that address subsurface, residual free-phase VOC contamination at OU 2.

3.2.1 OU 2 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase II RFI/RI Work Plan (Alluvial)	21 Dec 89
Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90
Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91

AUGUST WORK ACTIVITY STATUS:

Work continued on the Draft Phase I RFI/RI Report (Alluvial). Compilation, analysis and interpretation of field data is ongoing. Mapping activities include subcropping sands, isoconcentrations, alluvial thickness, and other hydro and geologic parameters. Analytical data verification and compilation continued.

One of the Phase II RFI/RI Alluvial Field Activities is the surficial soil sampling and the support services. The internal kick-off meeting for the surficial soil scrapes program was held August 11, 1992. A sample grid pattern and sample frequency were discussed at the meeting. A signed contract was sent out and the surficial soil samples were collected.

A field trip of the east trenches area was conducted for the regulatory agencies on August 5, 1992. Representatives from EPA, CDH and DOE/RFO were present.

A draft copy of the Aquifer Testing Report was completed and DOE began review of the document in August.

The Procedures Manual and Health and Safety Plan for the OU 2 Surface Water IRA Operations and Maintenance was completed and approved.

The Draft Final of Technical Memorandum #5, Exposure Scenarios, was sent to the regulatory agencies on August 24, 1992. The first draft of Technical Memorandum #6, Modeling Technical Memorandum, is being reviewed.

PLANNED WORK FOR SEPTEMBER:

The design work for the first Subsurface Contamination IRAP Test Plan will be completed.

A copy of the Aquifer Testing Report will be sent to EPA and CDH.

The Draft Final of Technical Memorandum #6, Modeling Description, will be finalized.

The Final Subsurface IM/IRAP/EA Decision Document and Responsiveness Summary will be submitted to EPA and CDH.

PROBLEMS:

Extensive laboratory turnaround times may necessitate a request for extension of the milestone for the OU 2 Draft Phase II RFI/RI Report due to the regulatory agencies on March 12, 1993.

OPEN ITEMS: None

3.2.2 OU 2 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA Decision Document	11 Jan 91
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	13 May 91
Submit Draft Treatability Test Report (Phase I GAC)	01 Apr 92
Complete IM/IRA Construction (radionuclides removal system)	24 Apr 92
Begin Field Treatability Testing (radionuclides removal system)	27 Apr 92

AUGUST WORK ACTIVITY STATUS:

The Field Treatability Unit (FTU) collected, treated, and discharged approximately 374,780 gallons of surface water during the month of August. Twenty-four hour manned operation continues without problems. Three collection points are pumping surface water for treatment, as required.

An issues meeting was held on August 6, 1992, regarding the Surface IM/IRA (FTU). DOE/RFO, EPA and CDH were in attendance. Items discussed were: format changes in the Phase II Treatability Study Report due in the Spring of 1993, permanent installation of SW132, operational procedures and reducing sludge generation of the FTU, analytical discrepancy of influent radionuclides, and access control of the area south of SW61. The key issue discussed was the formatting of the Phase II Treatability Study Report. However, due to the long report time of radionuclides data, there will be an early cutoff schedule of input data included in the report. It was agreed that data collected after the cutoff because of laboratory results becoming available at various times would be included in other report vehicles.

During the week of August 7, 1992, a 90-day accumulation area was established near the FTU to store residuals from the treatment process. The area has been posted and the drums properly stored including drum configuration and labels. Traveler forms are being completed.

Loose rheostat and field wires on the FTU generator were determined to be the result of bearing problems within the generator unit. The vendor replaced the bearing within the unit and conducted several operational tests. The unit appears to be functioning well.

The number of pinhole leaks that developed in the two on-line GAC upper weld seams on August 18, 1992, continue to increase. The manufacturer states, " The major cause of the failures is galvanic corrosion caused by chlorides in the influent." Samples were sent to a DOE/RFO lab to test for chloride levels. A DOE/RFO corrosion team is also examining the problem. Water droplets from the leaks are still being contained, and the treatment system is operating normally. A manufacturer's representative visited the site to evaluate the problem. This problem will be addressed under the equipment warranty.

Due to stormy weather conditions and high turbidity in the surface water, problems have been experienced with cleaning the membrane in the Field Treatability Unit/Radionuclides Removal System (FTU/RRS). Several solutions were attempted including changing the chemical cleaning agent from calcium hypochlorite to sulfuric acid/hydrogen peroxide and increasing the chemical dose rates. A combination of the above has resulted in a solution to the problem. During this event, ten drums of sludge were processed and moved to the 90-day accumulation area. Half of these drums were the result of turbid flow from the rainstorm and the other half were an accumulation of solids within the system.

A chain with a lock has been placed across the entrance of the OU 2 weir access driveway, and the driveway was posted with a sign. This action was taken to prevent unnecessary traffic from causing damage to underground process piping in this area. The conclusions of an investigation into the cause of the standing water located in the access driveway was the result of temporary high local water table, not a plant piping source.

The Subsurface Contamination Final IM/IRAP/EA Decision Document and Responsiveness Summary was sent to the regulatory agencies for final review and approval on August 20, 1992. Design work on the first out of three test plans continued during August and several meetings were held to finalize the design. It was resolved that the use of horizontal drilling/horizontal vents would be evaluated as part of the first test in line with the observational approach. It was also resolved that potential areas for the soil gas survey would need to be prioritized so that more areas could be considered in the survey. Additionally, various configurations of the vents and mobile treatment system were discussed at the design meetings. It is expected that further informal discussions will be necessary to resolve concerns associated with the vent and treatment system design.

PLANNED WORK FOR SEPTEMBER:

Continue operation of the FTU and winterize collection equipment for SW132

The Final Subsurface IM/IRAP is tentatively scheduled to be released to the public on September 10, 1992; EPA and CDH approval of the final IM/IRAP and Responsiveness Summary is expected on September 1, 1992.

PROBLEMS:

The number of pinhole leaks that developed in the two on-line GAC upper weld seams on August 18, 1992, continue to increase. The manufacturer states, " The major cause of the failures is galvanic corrosion caused by chlorides in the influent." Samples were sent to a DOE/RFO lab to test for chloride levels. A DOE/RFO corrosion team is also examining the problem. Water droplets from the leaks are still being contained, and the treatment system is operating normally. A manufacturer's representative visited the site to evaluate the problem. This problem will be addressed under the equipment warranty.

Due to stormy weather conditions and high turbidity in the surface water, problems have been experienced with cleaning the membrane in the Field Treatability Unit/Radionuclides Removal System (FTU/RRS). Several solutions were attempted including changing the chemical cleaning agent from calcium hypochlorite to sulfuric acid/hydrogen peroxide and increasing the chemical dose rates. A combination of the above has resulted in a solution to the problem. During this event, ten drums of sludge were processed and moved to the 90-day accumulation area. Half of these drums were the result of turbid flow from the rainstorm and the other half were an accumulation of solids within the system.

OPEN ITEMS: None

3.3 OU 3 - OFFSITE AREAS

DESCRIPTION:

OU 3 can be divided into two categories based on two main activities. The IAG directs activities according to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This involves assessment of contamination in offsite areas also referred to as IHSSs: Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay v. U.S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the land owners.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Past Remedy Report	26 Oct 90
Submit Draft Historical Information/Preliminary Health Risk Assessment Report	09 Nov 90
Submit Final Past Remedy Report	02 Apr 91
Submit Final Historical Information/Preliminary Health Risk Assessment Report	16 Apr 91
Submit Draft Phase I RFI/RI Work Plan	10 Jul 91
Submit Final Phase I RFI/RI Work Plan	06 Dec 91

AUGUST WORK ACTIVITY STATUS:

A survey for the endangered plant species *Spiranthes Diluvialis* was satisfactorily completed; soil trenching and drilling of ground water monitoring wells can now proceed. Surface soil sampling and environmental sampling continues.

DOE/RFO held a meeting to discuss the difficulties encountered in obtaining offsite property access agreements for OU 3 field work. A strategy was developed to answer the many legal questions arising from negotiations with the landowners. The slow pace of obtaining the agreements is starting to negatively impact the OU 3 field work schedule.

Offsite sediment sampling in the three OU 3 reservoirs that originally was scheduled for August 24, 1992, was postponed due to poor weather conditions and subsequently started August 27, 1992.

A meeting was held on August 26, 1992, with the subcontractor conducting the wind tunnel study. The first task was to produce a technical description of the study that will form the basis for a Technical Memorandum to be submitted to the agencies. Wind tunnel field work is planned for October-November 1992, but is highly subject to weather conditions.

PLANNED WORK FOR SEPTEMBER:

Continue obtaining private landowner access agreements for field sampling work.

The technical memorandum defining the wind tunnel field work will be written.

PROBLEMS:

The slow pace of obtaining private landowner access agreements is negatively affecting the surficial soil sampling schedule.

OPEN ITEMS: None

3.4 OU 4 - SOLAR EVAPORATION PONDS

DESCRIPTION:

OU 4 is made-up of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C. Beginning in the late 1950s, the ponds were used to store and evaporate low-level radioactive process water containing high concentrations of nitrates and treated acidic wastes. The sludge and sediments that resulted from the process were periodically removed and disposed of at the Nevada Test Site.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle ground water contaminated by the ponds and to prevent natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger, interceptor trench system which recycles approximately four million gallons of ground water a year back into the solar evaporation ponds.

No additional process water has been pumped into the ponds since 1983. The interceptor trench system collects and recycles ground water into the solar evaporation ponds continuously. Presently, only the 207B north solar evaporation pond receives contaminated ground water collected by the interceptor system. The ponds are RCRA interim status regulated units that are currently under closure. In order to proceed and characterize the level of contamination at the site, approximately eight million gallons of excess liquid in the ponds must be removed. The removal of this liquid and the redirection and treatment of the ground water by the interceptor trench system are the focus of the final Interim Measure/Interim Remedial Action (IM/IRA) dated April 1992, which began construction in May 1992.

The April 1992 IM/IRA was developed as a regulatory agency requirement that was out of scope from the tasks outlined in the Interagency Agreement (IAG). DOE attempted to modify an existing permit for water removal and treatment for liquids in the solar ponds and ground water collected by the intercepter trench system, but the regulatory agencies rejected permit modification and required development of an IM/IRA to document operation and use of the proposed water treatment system. The development and implementation of this IM/IRA precedes the IAG scheduled Phase I RFI/ RI fieldwork.

There is an IM/IRA scheduled in the IAG that will be completed after results are collected and analyzed from the Phase I RFI/RI fieldwork. The first draft of the IAG IM/IRA is scheduled for delivery in April 1994.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91

AUGUST WORK ACTIVITY STATUS:

The contract for implementation of the Final Phase I RFI/RI Work Plan for OU 4 was awarded on August 3, 1992. Two implementation/coordination meetings for the OU 4 RFI/RI field work were held on August 13 and 18, 1992. The meeting covered issues regarding the implementation schedule and logistics. DOE attended the meeting to help review their requirements for field projects. The field work implementation plan will include a baseline schedule for the RFI/RF field work and will also include organizational charts and a project contact list.

Radiation Worker Training was held on August 19, 1992, and Radiation Protection Technician Training is scheduled for September 3, 1992. Training will include Health and Safety, Standard Operating Procedures, and General Employee Training.

PLANNED WORK FOR SEPTEMBER:

Radiation Protection Technician Training is scheduled for September 3 and September 11, 1992. Standard Operating Procedure Training is being developed by EG&G and will be specific for the OU 4 Work Plan implementation.

PROBLEMS: None

OPEN ITEMS: None

3.5 OU 5 - WOMAN CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Woman Creek drainage of 10 IHSSs. These are: Original Landfill (IHSS 115); Ash Pits (IHSS 133.1 - 133.4); Incinerator (IHSS 133.5); Concrete Wash Pad (IHSS 133.6); Detention Ponds C-1 and C-2 (IHSS 142.10 and 142.11); Surface Disturbance (IHSS 209), southeast of Building 881. Two additional surface disturbances have been identified and are located, one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 work plan. Possible contamination in this operable unit was caused by landfill operations, stormwater run-off into holding ponds, and ash-pit operations. Constituents in OU 5 are believed to include nitrates, plutonium, uranium, metals, beryllium, solvents, pesticides, oils, paints, and cleaners. Medias affected include soils, sediments, surface water, ground water, and air resuspension.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	05 Apr 91
Submit Final Phase I RFI/RI Work Plan	30 Aug 91

AUGUST WORK ACTIVITY STATUS:

The Final Health and Safety Plan (HSP) for OU 5 was completed on August 14, 1992; final sign-off took place on August 25, 1992. The draft Technical Memorandum 2 (TM 2), Surface Geophysics, was delivered for review and will be the second TM to go through the review process. The Revised Network Design, TM 1, is currently at the agencies for review.

All required training, including Standard Operating Procedure (SOP) training, is scheduled to be completed September 4, 1992. The Health and Safety Plan was approved by Industrial Hygiene and field activities are scheduled to commence on September 8, 1992.

The following preliminary draft documents for the RI field work were received and are undergoing review:

- Revised Network Design
- Technical Memorandum 3 (TM 3), Soil Sampling Plan - Landfill (IHSS 115)
- Technical Memorandum 7 (TM 7), Soil Boring Sampling Plan
- Technical Memorandum 8 (TM 8), Monitoring Well Installation (IHSS 115)
- Technical Memorandum 9 (TM9), Monitoring Well Installation (IHSS 133)
- Implementation of Phase I RFI/RI Work Plan

The final draft documents for Technical Memorandum 1 (TM1), Water and Sediment Sampling Plan, renamed Revised Network Design - Field Sampling Plan, were forwarded to the regulatory agencies.

PLANNED WORK FOR SEPTEMBER:

All required training, including Standard Operating Procedure (SOP) training, is scheduled to be completed September 4, 1992. The Health and Safety Plan was approved by Industrial Hygiene and field activities are scheduled to commence on September 8, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.6 OU 6 - WALNUT CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Walnut Creek Drainage of 21 Individual Hazardous Substance Sites (IHSSs). They are the A-series Detention Ponds, Ponds A-1 through A-4 (IHSS 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North, Pond, and South Area Spray Fields (IHSS 167.1, 167.2 and 167.3); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSS 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165), and the Old Outfall Area (IHSS 143). One additional site, the Soil Dump Area (IHSS 156.2), was transferred from OU 14 to OU 6 in 1991. Two IHSSs, Property Utilization And Disposal Yard (IHSS 170) and Property Utilization and Disposal Container Storage Facilities (IHSS 174) have been transferred from OU 6 to OU 10. 13 ground water monitoring wells will be installed throughout OU 6 to monitor the alluvial aquifer. 5 bedrock ground water monitoring wells will be installed in the vicinity of North Walnut Creek during the OU 6 remedial investigation. To characterize the bedrock aquifer in the vicinity of the A-series ponds up to 9 additional bedrock ground water monitoring wells may be installed.

Sediment samples will be collected from the Walnut Creek drainage where existing data are insufficient to adequately characterize the sediments. Sediment sampling has been proposed along each stream segment on North and South Walnut Creeks where additional characterization is needed. Based on a review of the data collected at the existing locations along the OU 6 drainage, there is sufficient information about the sediments in many parts of OU 6; therefore, the sampling locations specified in the RFI/RI work plan have been reduced in those areas.

The surface soil sampling has been modified for the Triangle Area (IHSS 165) and the Old Outfall Area (IHSS 143) so that the surface soil samples specified in the IAG will be obtained from the original surface of these units. This will entail boring through the overlying fill material down to the original surface to collect samples.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	19 Apr 91
Submit Final Phase I RFI/RI Work Plan	16 Sep 91

AUGUST WORK ACTIVITY STATUS:

The Health and Safety Plan (HSP) and the Field Implementation Plan were submitted to DOE/RFO for review, and comments were made. The HSP must be approved before field work can commence. A draft of the TM outlining reductions in the OU 6 Work Plan was received by DOE/ RFO. The environmental evaluation request for proposal was submitted.

DOE/RFO requested that a revised Surface Water Sampling Plan be proposed along with other recommended changes to the work plan.

PLANNED WORK FOR SEPTEMBER:

Environmental evaluation field work will commence along with any remaining field work

PROBLEMS: None

OPEN ITEMS: None

3.7 OU 7 - PRESENT LANDFILL

DESCRIPTION:

The Present Landfill - Operable Unit (OU) 7 is located north of the plant complex on the western edge of an unnamed tributary of North Walnut Creek and is comprised of two IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill, soils beneath the landfill potentially contaminated with leachate, and sediments and water in the East Landfill Pond. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area. A section of the Present Landfill located in the southwest corner was used between 1986 and 1987 as a temporary storage area for hazardous waste. The Present Landfill began operation in August of 1968 and was originally constructed to provide for disposal of RFP's nonradioactive and nonhazardous wastes. In September 1973, tritium was detected in leachate from the landfill. During the mid-1980s extensive investigations were conducted on the waste streams (types) placed into the landfill, and consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	28 Aug 91

AUGUST WORK ACTIVITY STATUS:

Some minor revisions to the OU 7 Final Phase I RFI/RI Work Plan were submitted to EPA and CDH on August 3, 1992. The Final Work Plan was originally submitted on August 28,1991 and received conditional approval.

Subcontract negotiations to implement the OU 7 RFI/RI Work Plan began August 27, 1992. Contract award is anticipated by September 11, 1992.

The agencies held a meeting on August 19, 1992, to discuss the definition of a Phase I Baseline Risk Assessment (BRA). Determinations are as follows: (1) Only ingestion, inhalation, and dermal absorption of source and soils pathways will be considered during Phase I. (2) Receptors will include the residential exposure scenario, (3) Compliance with CHWA closure requirements will not be considered until ROD, (4) Only primary sources will be considered, (5) Ground water and surface water pathways are excluded from a Phase I BRA.

PLANNED WORK FOR SEPTEMBER:

Contract award to implement the RI Work Plan is anticipated by September 11, 1992.

3.8 OU 8 - 700 AREA

DESCRIPTION:

The 24 IHSSs which constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Plant. Contamination sources within the various IHSSs include above ground and underground tanks, equipment washing areas, and releases inside buildings which potentially affected areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and in some cases through precipitation runoff. The chemical composition of the contaminants also varies widely between the IHSSs, ranging from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

During April 1992, 14 IHSSs were deleted from OU 8 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. The IHSSs that were transferred to OU 9 include: 123.2-Valve Vault West of Building 707, 125-Holding Tank, 126.1 and 126.2-Out-of-Service Process Waste Tanks, 127-Low-Level Radioactive Waste Leak, 132-Radioactive Site - 700 Area Site #4, 146.1-146.6-Concrete Process Waste Tanks, 149-Effluent Pipe, 159-Radioactive Site Building 559. These IHSS changes were recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	01 May 92

AUGUST WORK ACTIVITY STATUS:

The regulatory agencies are reviewing the Draft Phase I RFI/RI Work Plan submitted on June 22, 1992. Comments from the agencies were scheduled to be submitted by July 30, 1992. CDH stated that they are about three weeks behind schedule for delivery of formal written comments. Because comments will be later than expected, DOE/RFO is preparing an extension letter and a revised schedule to notify the agencies that the September 28, 1992 IAG milestone for delivery of the Final Work Plan for OU 8 should be extended given the circumstances. The proposed extension delivery date is November 13, 1992, based on a revised schedule that assumed agency comments would be received by July 30, 1992.

PLANNED WORK FOR SEPTEMBER:

Prepare internal comment responses on the Draft Phase I RFI/RI Work Plan.

PROBLEMS:

RFP is awaiting comments from EPA and CDH on the revised OU 8 RFI/RI Work Plan. Receipt of EPA and CDH comments past September 11, 1992 will necessitate a IAG Table VI Milestone extension.

OPEN ITEMS:

DOE, EPA and CDH are close to informal resolution of the DOE dispute regarding acquisition procedures and procurement support.

3.9 OU 9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involves characterizing a series of tanks and associated process waste lines. The Original Process Waste Lines (OPWL) consisted of a system of 57 designated pipe sections extending between 73 tanks and 24 buildings connected by 35,000 feet of buried pipeline that transferred process wastes from point of origin to on-site treatment plants. The system was placed into operation in 1952, and additions were made to the system through 1975. The original system was replaced over the 1975-1983 period by the new process waste system. Some tanks and lines from the original system have been incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics and acids. Small quantities of other liquids were also introduced in the system, including pickling liquor from foundry operations, medical decontamination fluids, miscellaneous laboratory liquids from Building 123, and laundry effluent from Buildings 730 and 778. The RFI/RI plan includes inspection and sampling of the OPWL tanks and pipelines which are accessible, and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by installing test pits and boring where known or suspected releases occurred, near pipe joints and valves, at approximately 200-foot intervals along the pipelines and by installing borings around the tanks which are outdoors. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the RFI/RI will determine the need for interim and/or final remediation action.

During April 1992, 20 IHSSs were deleted from OUs 8, 10, 12, 13, and 15 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. The IHSSs that were transferred to OU 9 include: 123.2-Valve Vault West of Building 707, 125-Holding Tank, 126.1 and 126.2-Out-of-Service Process Waste Tanks, 127-Low-Level Radioactive Waste Leak, 132-Radioactive Site - 700 Area Site #4, 146.1-146.6-Concrete Process Waste Tanks, 149-Effluent Pipe, 159-Radioactive Site Building 559, 124.1-124.3-Radioactive Liquid Waste Storage Tanks, 147.1-Process Waste Leaks/Maas Area, 122-Underground Concrete Tank, and 215-Tank T-40.

The above IHSSs all constitute part of the Original Process Waste Lines and will be investigated and remediated as such. These IHSS changes were recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91

AUGUST WORK ACTIVITY STATUS:

The Technical Evaluations (TEs) of proposals to implement the OU9 Phase I RFI/RI Work Plan were completed on August 10, 1992.

The Additional Data Compilation (ADC) portion of the Phase I RFI/RI Work Plan for OU 9 is continuing with obtaining Original Process Waste Line (OPWL) engineering drawings. The ADC was initiated to prevent delay of work plan implementation. Similarly, work has begun on the planning of the radiological survey plan portion of Field Sampling Plan (FSP) Technical Memorandum 1 (TM 1). TM 1 must be submitted to and approved by EPA and CDH prior to implementation of the work plan. TM 1 will detail Stage 1 of the Phase I RFI/RI Work Plan FSP. OU 9 field work is expected to begin during January 1993 after a Health and Safety Plan, TM 1 and Implementation Plan have been submitted to and approved by the appropriate parties.

PLANNED WORK FOR SEPTEMBER:

Best and Final Proposals will be solicited from potential subcontractors for implementation of the Phase I RFI/RI Work Plan for OU 9. The Best and Final Proposals will be evaluated and subcontract award prepared.

PROBLEMS: None

OPEN ITEMS: None

3.10 OU 10 - OTHER OUTSIDE CLOSURES

DESCRIPTION:

OU 10 is made up of 15 IHSSs scattered throughout the plant which consist of various hazardous waste units. Six of the IHSSs are located in the PA, two are located in the buffer zone near the present landfill, and the remaining IHSSs are located near various buildings throughout the plant. The types of wastes identified at these sites range from pondcrete/saltcrete storage and drum storage to a utilization yard with waste spills. A Final Phase I RFI/RI Work Plan is currently in preparation. The primary components of the RFI/RI Work Plan for OU 10 will be a Field Sampling Plan (FSP), Baseline Risk Assessment Plan (BRAP), and an EE Work Plan. IRA is scheduled to begin in early 1998.

Three additional IHSSs were transferred from other operable units to OU 10 after the Draft RFI/RI Work Plan was completed in FY90. The Draft Work Plan was based on the draft IAG which was modified during final IAG negotiations. A contract modification was initiated to incorporate the three IHSSs into the Draft Work Plan and to perform general upgrades to the Plan.

During April 1992, IHSSs 124.1-124.3, the Radioactive Liquid Waste Storage Tanks were deleted from OU 10 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	27 Nov 91
Submit Final Phase I RFI/RI Work Plan	01 May 92

AUGUST WORK ACTIVITY STATUS:

The revised Final OU 10 FRI/RI Work Plan was submitted to the regulatory agencies on July 17, 1992. The agencies are reviewing the work plan. Conditional approval of the work plan was given in a letter from CDH dated August 10, 1992.

PLANNED WORK FOR SEPTEMBER:

The Statement of Work (SOW) for implementation of the Phase I RFI/RI Work Plan will be developed.

PROBLEMS: None

OPEN ITEMS: None

3.11 OU 11 - WEST SPRAY FIELD

DESCRIPTION:

The West Spray Field is located within the Rocky Flats Plant buffer zone immediately west of the plant security area. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from solar evaporation ponds 207-B North and Center (contaminated ground water in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105.1 acres, 38.3 of which received direct application of hazardous waste. The RFI/RI process will entail field studies to investigate the presence or absence of hazardous constituents in soil and ground water.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	02 Jan 92

AUGUST WORK ACTIVITY STATUS:

Verbal approval of the minor revisions to the conditionally approved OU 11 Phase I RFI/RI Work Plan was given by the CDH lead. The revisions were sent to the work plan subcontractor for incorporation into the work plan.

PLANNED WORK FOR SEPTEMBER:

Begin finalization of the conditionally approved OU 11 RFI/RI Phase I Work Plan. The final version of the OU 11 Work Plan will be complete by mid-September.

PROBLEMS: None

OPEN ITEMS: None

3.12 OU 12 - 400/800 AREA

DESCRIPTION:

The 400/800 Area involves assessment and remediation of the 11 IHSSs at the 400/800 Area, including: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - Northeast , South, and West of Building 460 (IHSSs 136.1, 136.2, and 136.3); Process Waste Leak - Owen Area (147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

During April 1992, IHSS 147.1 (the Process Waste Leaks-Maas Area), was deleted from OU 12 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 May 92

AUGUST WORK ACTIVITY STATUS:

The OU 12 Draft Phase I RFI/RI Work Plan has been reviewed by CDH and EPA, and comments were received by DOE and EG&G from both agencies. Initial review of agency comments indicates minimal changes and/or problems with the approach and implementation of the draft plan.

CDH comments specifically addressed concerns they have with the Field Sampling Plan as it relates to the sampling methodology for soils. They feel that a change in scope may be required to fully assess the contamination that may lie beneath the buildings which cannot be fully evaluated within the scope of the current work plan. DOE/RFO will review the Work Plan once more after EPA and CDH comments have been incorporated into the plan.

DOE has requested that a comprehensive field sampling plan (FSP) for the industrial area OUs be developed for surface water, sediment, and groundwater sampling activities. The FSP will provide consistent sampling methodologies for all industrial area OU's.

PLANNED WORK FOR SEPTEMBER:

Completion of the OU 12 Draft Phase I RFI/RI Work Plan will occur in September and will include comment response and resolution.

PROBLEMS: None

OPEN ITEMS: None

3.13 OU 13 - 100 AREA

DESCRIPTION:

Cleanup of the 100 Area involves the assessment and remediation of 14 IHSSs including: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2 and 117.3); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); and the Hydrogen Peroxide Spill (IHSS 191).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

During April 1992, IHSS 122, the Underground Concrete Tank, was deleted from OU 13 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

EPA and CDH have requested that additional surficial soil sampling be added to the RFI/RI which would include processing and analytical work

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	15 May 92

AUGUST WORK ACTIVITY STATUS:

Comments were received from EPA and CDH on August 6, 1992, on the OU 13 Draft Phase I RFI/RI Work Plan. Efforts are underway to address these comments and modify the Draft Work Plan accordingly. The Final Phase I RFI/RI Work Plan for OU 13 is due to CDH on October 12, 1992.

PLANNED WORK FOR SEPTEMBER:

The RFI/RI Work Plan will be revised per comments provided by EPA and CDH.

A meeting with EPA, CDH and DOE will take place in order to clarify comments on the draft plan. A revised draft of the OU 13 Work Plan will undergo review by DOE for final comments.

PROBLEMS: None

OPEN ITEMS: None

3.14 OU 14 - RADIOACTIVE SITES

DESCRIPTION:

Work at the "Radioactive Sites" involves the assessment and remediation of eight IHSSs, including: Radioactive Site - 700 Area Site #1 and Site #2 (IHSS 131); Radioactive Soil Burial - Building 334 Parking Lot and Soil Dump Area (IHSSs 156.1); Building 444 Parking Lot (IHSS 160) and Building 664 (IHSS 161); and Radioactive Site - 700 Area Site #2 (IHSS 162); and Radioactive Sites - 800 Area which includes the Concrete Slab, Building 886 Spills, and the Building 889 Storage Pad (IHSSs 164.1, 164.2, and 164.3). In 1991, one of two Soil Dump Area IHSSs (156.2) was deleted from OU 14 and added to OU 6.

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	26 Jun 92

AUGUST WORK ACTIVITY STATUS:

The Draft Phase I RFI/RI Work Plan for OU 14 is being reviewed by the regulatory agencies. Revision of the draft document is pending resolution of any comments received from the agencies for incorporation into the work plan. Work plan comments under the original IAG schedule were expected from EPA and CDH on August 20 and are now expected on September 17, 1992. Once comments are received they will be resolved and incorporated into the final work plan.

PLANNED WORK FOR SEPTEMBER:

EPA and CDH comments will be reviewed and incorporated into the OU 14 Final Phase I RFI/RI Work Plan to be submitted to EPA and CDH on October 19, 1992, per the IAG.

PROBLEMS: None

OPEN ITEMS: None

3.15 OU 15 - INSIDE BUILDING CLOSURES

DESCRIPTION:

OU 15 is composed of six IHSSs including: Building 881 Drum Storage Area; Building 865 Drum Storage Area; Building 883 Drum Storage Area; Unit 45, Original Uranium Chip Roaster; Unit 26, Building 881 Drum Storage; and Unit 32, Building 881 - Cyanide Bench Scale Treatment. OU 15 will undergo RCRA closure of all IHSSs. The six IHSSs are currently listed as RCRA interim status units. Closure Plans for the facilities were submitted to CDH in 1988 and again in 1989. The major activity proposed is characterization and decontamination, if applicable, of the concrete floors at the indoor facilities. Drums and dumpsters containing solids and liquids were stored at these facilities. Types of waste included oils, coolants and solvents containing chlorinated hydrocarbons (RCRA F001 and F002 wastes) and waste paints and waste metals contaminated with solvents. Hazardous constituents include chlorinated solvents, beryllium, and uranium.

During April 1992, IHSS 215, Unit 55.13-Tank T-40, was deleted from OU 15 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

According to CDH's comments on the Draft Phase I RFI/RI Work Plan, IHSS 212 (RCRA Unit 63, Building 371 Drum Storage Area) is no longer included in OU 15 since it is an interim status drum storage area that was included in the 1988 RCRA Part B TRU Mixed Waste Permit Application.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	01 Jun 92

AUGUST WORK ACTIVITY STATUS:

The OU 15 Draft Phase I RFI/RI Work Plan is being reviewed by EPA and CDH.

EPA and CDH have decided that RCRA closure will follow the IAG-required RFI/RI Reports in accordance with the IM/IRA decision process. The current guidance corresponds to the guidance for OUs 4, 7, 9, 10 and 11 which states that IAG requirements may make closure plans obsolete, as is the case with OU 15. This guidance may require the Phase I RFI/RI Work Plan to be more comprehensive than originally planned.

PLANNED WORK FOR SEPTEMBER:

Meetings between DOE, EPA, and CDH will take place in September to discuss the agencies comments and to finalize the Work Plan. The Final Work Plan is due to EPA and CDH on October 26, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.16 OU 16 - LOW PRIORITY SITES

DESCRIPTION:

This assessment activity consists of preparing a "No Further Action Justification Document" for 7 IHSSs, including: Solvent Spill, Antifreeze Discharge, Steam Condensate Leaks, Nickel Carbonyl Disposal, Water Treatment Plant Backwash Pond, and Scrap Metal Sites. In addition, the draft document must be reviewed, comments resolved, and the draft finalized. EPA will then review the final draft "No Further Action Justification Document".

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft No Further Action Justification Document	04 Mar 92

AUGUST WORK ACTIVITY STATUS:

The Final No Further Action Justification Document (NFAJ) was submitted to the regulatory agencies on July 30, 1992. The agencies are reviewing the document.

PLANNED WORK FOR SEPTEMBER:

A meeting with EPA and CDH has been scheduled for September 16, 1992 to discuss DOE's approach for revising the NFAJ document. The NFAJ document will be reviewed based on the outcome of the meeting. The revised Final NFAJ document is due to the regulatory agencies on October 16,1992.

PROBLEMS: None

OPEN ITEMS: None

3.17 SITEWIDE ACTIVITIES

DESCRIPTION:

Sitewide activities include several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to RFP environmental restoration activities in general. The activities include, but are not limited to, the Health and Safety Plan, a Sampling and Analysis Plan, a Plan for Prevention of Contaminant Dispersion, the Community Relations Plan, the Discharge Limits for Radionuclides Work Plan, Treatability Study deliverables, the Background Study Plan, Administrative Record, State Response (support for CDH oversight), Historical Release Report, Operations Management, Decontamination Facilities, Contractor yard support, ER Waste handling facilities, geologic characterization, hydrogeologic characterization, and ground water monitoring.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Background Study Report (Water)	15 Dec 89
Submit Draft Background Study Report (Soils)	15 Dec 89
Submit Draft Community Survey Plan	23 Jan 90
Submit Final Community Survey Plan	22 Mar 90
Submit Draft Health and Safety Plan	15 Aug 90
Submit Draft Quality Assurance Project Plan	29 Aug 90
Submit Draft Standard Operating Procedures	29 Aug 90
Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
Submit Draft Treatability Study Plan	21 Sep 90
Submit Draft Community Relations Plan	01 Nov 90
Submit Final Health and Safety Plan	12 Nov 90
Submit Revised Background Study Report	21 Dec 90
Submit Final Community Relations Plan	22 Jan 91
Submit Final Quality Assurance Project Plan	01 Mar 91
Submit Final Standard Operating Procedures	01 Mar 91
Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
Submit Community Relations Plan Responsiveness Summary	21 Jun 91
Submit Final Treatability Study Plan	03 Jun 91
Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91
Submit Final Plan Discharge Limits Radionuclides	16 Sep 91
Submit Final PPCD and Responsiveness Summary	25 Nov 91
Submit Draft Historical Release Report	08 Jan 92
Submit Responsiveness Summary for DLRP	31 Jan 92
Submit Final Historical Release Report	03 Jun 92

AUGUST WORK ACTIVITY STATUS:

Historical Release Report
The Final Historical Release Report was submitted on May 29, 1992, three days ahead of the IAG milestone date. The quarterly update to the Historical Release Report is scheduled to start September 30, 1992, pending budget approval.

Treatability Study on Ion Exchange
The subcontract for the Sitewide Treatability Study on the Ion Exchange Work Plan is in place and work on the document has been started.

Rocky Mountain University Consortium Review
EG&G has authorized the Rocky Mountain University Consortium (Colorado State University, Idaho State and Denver University) to begin a review of the Final Treatability Studies Plan with particular emphasis on the Technology Review and Selection processes. The review is based on a Statement of Work prepared by Richard Walters (CSU). A final report from the review is expected sometime in October.

Protected Area (PA) Decontamination Facility
Construction activities on the PA Decontamination Facility are proceeding rapidly. The berm area for the tank area is being built up. The fill is ready for the liner to be laid down. Contracts with subcontractors for the liner installation are being negotiated.

PLANNED WORK FOR SEPTEMBER:

Work will continue on development of the Protected Area/ Interim Remedial Action Plan/ Environmental Assessment (PA/IRAP/EA).

Work will continue on planning the PA decontamination facilities in order to facilitate remediation efforts inside the PA.

Work will continue on the Treatability Study documents

PROBLEMS: None

OPEN ITEMS: None

4.0 ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDH upon request from the Environmental Management Department and EG&G Rocky Flats, Inc. The schedules are lengthy; therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe fieldwork and to obtain split or duplicate samples.

SURFACE WATER AND SEDIMENTS:

Each of the Surface Water Stations (approximately 30 stations) are sampled quarterly.

Each of the Sediment Stations (approximately 10 stations) are sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

CLP TCL VOAs
CLP TAL Metals
plus Cesium
Lithium
Molybdenum
Strontium
Tin

Major Anions
Radionuclides
Field Parameters
pH
Temperature
Specific Conductivity
Dissolved Oxygen (DO)
Turbidity

SOILS:

Each of the Soil Stations (located at 1- and 2-mile radii from the plant center) are sampled annually.

Each soil sample is analyzed for plutonium and americium.

GROUND WATER:

A total of 259 of the 371 total Ground water Stations are sampled quarterly; this includes alluvial wells, bedrock wells, and pre-1986 wells. Approximately one third of the wells are monitored monthly for water levels.

Each ground water sample is analyzed for CLP, TCL, VOAs, CLP, TAL, Metals, as well as the following parameters:

Radiochemical Parameters		Inorganic Parameters	Field Parameters
Gross Alpha	Tritium	Nitrate/Nitrite	Dissolved Oxygen (DO)
Gross Beta	Lithium	Total Phosphorous	Specific Conductivity
Plutonium	Uranium	Ortho-Phosphate	Temperature
Americium	Cesium	Ammonia	Turbidity
Strontium	Tin		pH
Molybdenum			

5.0 CONTRACTOR/SUBCONTRACTOR IDENTIFICATION

Contractors and subcontractors being used on the Rocky Flats Plant Environmental Restoration Program and the work they are performing are identified on the following list as required by paragraph 13 of the IAG.

OU	PROJECT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
1	Assessment	Ebasco	Dames & Moore Stoller Corp.	OU1 RFI/RI fieldwork (drilling, well development/ completion, sampling) and RI report	Apr-91
1	Remediation	Advance Tanks		Fabricate/Install effluent storage tanks for OU1 IRA	Oct-91
1	Remediation	Bruner		OU1 IRA ion exchange system	Feb-91
1	Remediation	E.T. LaFore		Installation of Phase II-A treatment system equipment for OU1 IRA	Jun-91
1	Remediation	Eng Sciences		Design Phase II-B French drain for OU1 881 Hillside IRA	Sep-90
1	Remediation	Jennison		Construct Phase II-B French drain at OU1 IRA	Aug-91
1	Remediation	P.S.L		UV bench scale testing for volatile organics	Aug-91
2	Assessment	Woodward-Clyde		OU2 RFI/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Assessment	Weston		OU2 RFI/RI Alluvial Work Plan	Nov-90
2	Remediation	Riedel Env. Svcs.		Fabricate/install/operate GAC/FTU system for South Walnut Creek Phase of OU2 IRA.	Apr-91
2	Remediation	Stearns Rogers		Performance Specification for chemical precipitation/ membrane/filtration system for South Walnut Creek Phase of OU2 IRA	Jun-91
2	Remediation	Weston		IRAP, EA, Risk Assessment, and Historical Assessment for Women Creek	Jun-91
2	Remediation	Woodward-Clyde		Conduct bench-scale tests on surface water	May-91
2	Remediation	TBD		Mfg/Install chemical precipitation/filtration unit for South Walnut Creek Phase of OU 2 IRA	Dec-91
3	Assessment	IT Corporation	CH2M Hill	OU3 RI Work Plan	Mar-91
3	Assessment	IT Corporation	CH2M Hill	Revegetate offsite lands	Jun-91
4	Assessment	IT Corporation	Applied Environ.	OU4 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Sep-91
4	Remediation	IT Corporation		Prepare OU4 IM/IRA Action Plan	Jul-90
5	Assessment	Woodward-Clyde		OU5 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
6	Assessment	Woodward-Clyde		OU6 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90

OU	PROJECT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
7	Assessment	IT Corporation	Stoller Corp.	OU7 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Apr-90
9	Assessment	IT Corporation		OU9 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-90
10	Assessment	Ebasco		OU10 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Jun-90
11	Assessment	IT Corporation		OU11 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Oct-91
SW	Hist. Rel. Rep.	IT Corporation	Doty & Assoc.	Prepare Historical Release Report	Feb-91
SW	PCB Assess.	Ebasco	Stoller Corp.	Prepare PCB Assessment Report	Jan-92
SW	Adm. Record	QuantaLex		Maintain IAG Administrative Record	Oct-90
SW	Geolog. Char.	ASI		Geologic Characterization, Data Base, and graphics	Feb-90
SW	Monitoring	Ebasco		Analytical Services for groundwater, surface water, and sediment	Dec-90
SW	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul-90
SW	Fld. Oversight	Ebasco	Stoller Corp.	ER field operations oversight	Oct-90
SW	Treatability	Ebasco		Sitewide treatability studies - Pu contaminated soils	Apr-90
SW	Treatability	Woodward-Clyde		Technical evaluation of sitewide treatability studies	Jul-90
SW	PPCD	Ebasco		Plan for Prevention of Contaminant Dispersion	Jun-90
SW	QA	Ebasco	SAIC	Develop and implement quality assurance program and field operations oversite	Dec-90
PM	Support	Ebasco	Stoller Corp.	Program Management Support	Feb-90